

METHOD & APPARATUS FOR
SINGLE DISC ULTRASONIC
CLEANING

ABSTRACT OF THE DISCLOSURE

According to the invention, conventional ultrasonic treatment apparatus employing relatively large tanks with bottom-mounted ultrasonic transducers for simultaneously processing a large plurality of disc-shaped workpieces are replaced with at least one ultrasonic treating apparatus adapted

5 for treating a single workpiece and comprised of a relatively small tank with a sidewall-mounted ultrasonic transducer. The tank may be provided with a movable partition for adjustably partitioning the tank or vessel into two sub-chambers, the partition being comprised of a material which is partially reflective and partially transmissive of ultrasonic (i.e., acoustic) energy

10 supplied to a liquid within the tank via the ultrasonic transducer. A reflector is provided within the tank for reflecting the acoustic energy either back to the movable partition or to a material which acts as an absorber of acoustic energy. In the former instance, the acoustic energy can be locally concentrated or focussed at a specific spacing from the ultrasonic transducer, at which

15 spacing the single workpiece is positioned for receiving a desired amount of acoustic energy. In the latter instance, the effectiveness of ultrasonic treatment of the single workpiece is enhanced by favoring formation of progressive (i.e., traveling) waves and minimizing formation of stationary (i.e., standing) waves.